

The Claims

What is claimed is:

1. A method for thermally degassing a working fluid of a two-phase
5 working cycle, the method comprising:
preheating a condensate mass flow;
feeding preheated condensate into feedwater tank/degaser means,
extracting a feedwater mass flow from the feedwater tank/degaser means and feeding said
feedwater mass flow to heating surfaces located in a heat recovery steam generator;
10 preheating the condensate mass flow in a first condensate preheater;
further preheating a condensate flow fraction of the preheated condensate
mass flow in a second condensate preheater;
feeding residual condensate mass flow into the feedwater tank/degaser
means; and
15 introducing the condensate flow fraction into the feedwater tank/degaser
means, thus heating the working fluid in the feedwater tank/degaser means with said
condensate flow fraction.
2. The method of claim 1, wherein the second condensate preheater is
20 arranged in the heat recovery steam generator upstream of the first condensate preheater
in the flow direction of exhaust gases flowing through the heat recovery steam generator.
3. The method of claim 1, further comprising:
expanding the residual condensate mass flow prior to the feeding into the
25 feedwater tank/degaser means, thus maintaining condensate thereof below boiling point.
4. The method of claim 3, further comprising:
maintaining the condensate entering the feedwater tank/degaser means at 5
K through 20 K below the boiling point.
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5. The method of claim 3, further comprising:
expanding the condensate while flowing through a first control element.

6. The method of claim 1, further comprising:
expanding the condensate flow fraction after preheating in the second
condensate preheater before feeding the condensate flow fraction into the feedwater
5 tank/degaser means.
7. The method of claim 6, further comprising:
expanding the condensate flow fraction into a wet steam state.
- 10 8. The method of claim 6, further comprising:
expanding the condensate flow fraction while flowing through a second
control element.
- 15 9. The method of claim 1, further comprising:
introducing the condensate flow fraction into the feedwater tank/degaser
means through a nozzle tube arranged below a liquid fluid surface in the feedwater
tank/degaser means.
- 20 10. The method of claim 1, further comprising:
alternately opening and closing a first control element to temporarily block
residual condensate mass flow.
- 25 11. The method of claim 1, wherein the working cycle is used in a
water-steam-cycle of a combined cycle power plant, said power plant comprising at least
one gas turbo group and a least one steam turbine plant.
- 30 12. A degassing device comprising a first condensate preheater, a
second condensate preheater, and a connection line leading from the first condensate
preheater and the second condensate preheater, and a feedwater tank/degaser means
having a first fluid inlet and a heating fluid inlet, a first line branching off between the
first condensate preheater and the second condensate preheater and leading to the first

fluid inlet, and a second line leading from the second condensate preheater to the heating fluid inlet.

13. The device of claim 12, wherein the degraser means is arranged on
5 top of the feedwater tank and is configured as a trickling degaser means.

14. The device of claim 12, wherein the first condensate preheater and
the second condensate preheater are arranged in a heat recovery steam generator, and the
first condensate preheater is arranged downstream of the second condensate preheater in
10 the direction of flue gases flowing through the heat recovery steam generator.

15. The device of claim 12, further comprising a control means
arranged in the first line.